

From glowbugs@theporch.com Thu Jan 9 11:23:55 1997
Return-Path: <glowbugs@theporch.com>
Received: from uro (localhost.theporch.com [127.0.0.1])
by uro.theporch.com (8.8.4/AUX-3.1.1)
with SMTP id KAA21020;
Thu, 9 Jan 1997 10:30:44 -0600 (CST)
Date: Thu, 9 Jan 1997 10:30:44 -0600 (CST)
Message-Id: <199701091630.KAA21020@uro.theporch.com>
Errors-To: ws4s@infoave.net
Reply-To: glowbugs@theporch.com
Originator: glowbugs@theporch.com
Sender: glowbugs@theporch.com
Precedence: bulk
From: glowbugs@theporch.com
To: Multiple recipients of list <glowbugs@theporch.com>
Subject: GLOWBUGS digest 409
X-Listprocessor-Version: 6.0c -- ListProcessor by Anastasios Kotsikonas
X-Comment: Please send list server requests to listproc@theporch.com
Status: 0

GLOWBUGS Digest 409

Topics covered in this issue include:

- 1) ARC-5 Pwr supply?
by "Bowes, Fr. Bruce" <GBB1@MARISTB.MARIST.EDU>
- 2) Re: Command Set Corpses
by rdkeys@csemail.cropsci.ncsu.edu
- 3) Recalcitrant, reticent regen
by Art Winterbauer <art@comet.ucar.edu>
- 4) Re: ARC-5 Pwr supply?
by rdkeys@csemail.cropsci.ncsu.edu
- 5) Re: Recalcitrant, reticent regen
by rdkeys@csemail.cropsci.ncsu.edu
- 6) Re: ARC-5 Pwr supply?
by jeffd@coriolis.com (Jeff Duntemann)
- 7) Bliley Crystals
by jkh@lexis-nexis.com (John Heck)
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by rdkeys@csemail.cropsci.ncsu.edu
- 9) RE: Command Set Corpses
by "Paul Bocci-CPB007" <Paul_Bocci-CPB007@email.mot.com>
- 10) Voltage needed to drive Xtal Osc?
by mjsilva@ix.netcom.com (michael silva)
- 11) WTB SCOPE
by leeboo@ct.net (Leon Wiltsey)
- 12) Zenith Trans-Oceanic/ARC5
by WD6BOR@aol.com

- 13) Tubes 5763 and 8532
by David Medley <davemed@worldnet.att.net>
- 14) Help with coil frequency
by Dave <gekko95@ix.netcom.com>
- 15) VFO question
by Dave <gekko95@ix.netcom.com>
- 16) Re: Voltage needed to drive Xtal Osc?
by rdkeys@csemail.cropsci.ncsu.edu

Date: Wed, 08 Jan 1997 11:50:15 EST
From: "Bowes, Fr. Bruce" <GBB1@MARISTB.MARIST.EDU>
To: The Glowbugs tube list <glowbugs@theporch.com>
Subject: ARC-5 Pwr supply?
Message-ID: <08JAN97.12784754.0324.MUSIC@MARISTB.MARIST.EDU>

Hi,
Well my parts are coming together for the 6L6 tx. In the meanwhile I have given a ARC-5 80m tx. to get started. Now I need something to give 'fire' and create life. I want to get it on the air and need a pwr supply. Does anyone have something that I could use, buy, assemble, fix or ????

The Newbie who is becoming obsessed,
Fr Bowes KB2TRF

Date: Wed, 8 Jan 1997 13:20:05 -0500 (EST)
From: rdkeys@csemail.cropsci.ncsu.edu
To: jeffd@coriolis.com
Cc: rdkeys@csemail.cropsci.ncsu.edu (), glowbugs@theporch.com,
Subject: Re: Command Set Corpses
Message-ID: <9701081820.AA118217@csemail.cropsci.ncsu.edu>

>
> While it's true that anything approaching an intact Command set should be
> retained and perhaps restored, there are an incalculable number of
> stripped-down Command chassis (I have one that was cut in half lengthwise
> for inexplicable reasons) minus inductors, caps, and so forth. Anybody who
> really wants to build a radio in a Command chassis should look for one of
> these. I see one or two every hamfest. Two 807s or 1625's in parallel can
> make a potent signal, and the box is certainly big enough.
>

We all agree on it being a good idea to maintain the quality pieces, if

possible.

But, hulkers make great cannon fodder for general BA/GB playing and partial or complete restoration or depot level shack parts resupply.

Some points for consideration in the stripped command set hulk end of the art and craft.....

- 1) SAVE all the itseybitsey screwsies so they DON'T get lostsies.
I keep a prized vial of those tiny screws that are forever getting lost. They are priceless unobtainium commercially. The hardware boyz have very quizzed looks on their faces if you approach them for such screwsies.
- 2) SAVE the underchassis keying relays, if not for yourself, for other's restorations and replacements.
- 3) The HULKS make great vfo's using all three tubes at 90 volts or so, or pulling out one final tube or even both and coupling appropriately. They make a great way to use a previously converted rig that would be rather difficult to totally restore. If the coils are gone, just couple out of the finals from the rf choke with maybe 100pf of good coupling cap, after disconnecting the underchassis final tank caps. If the tanks are there, but the antenna coil is gone, just wrap two turns of wire around the base of the coil, or use the small adjustable link. If the rig is a 4-5.3 version, just tune the padder caps in the oscillator down into 80m (likewise for the 2.1-3 hulks for 160m). Remember the old central electronics arcusfivus exciter vfos for their early ssb gear.
- 4) The receivers, if at least minimally operational as hulks make GREAT MONITOR RECEIVERS.

So, even hulkers are great resources. Classic canoeiron!

The three intact ones I have are only minimally touched to allow operation (the mod is floating about --- namely only 1 --- unsoldering the antenna relay wire and wrapping the antenna relay contact around to make solid contact). Then after adjusting the keying relay to sequence properly, keying the oscillator before the final, they are cadillac rigs, As Is. They will QRQ with the tentec boyz, and sound as good as any sort of kenicomiyasiwhoobie sandbox rig. For more details, see Dave Stinson as I guess he is the info resource for the rig now.

But Hulkers are great as a qrp rig, a spare vfo, and the receivers are not half bad used as they were designed to be used, and bearing in mind they are rather broad in the selectivity category (but hot as hell in sensitivity). Also the receivers make GREAT MONITOR RECEIVERS (all hands

should always be monitoring their signals independently of sidetone, right?). Especially so on boatanchors, glowbugges and the like, right? A three inch antenna works quite well on qrp gear, and no antenna at all on biggie BA iron. Also, as monitor receivers, the plate supplies can be almost anything from 90v to 220v dc. It is highly uncritical --- only need enough plate voltage to make the bfo oscillate sufficiently, and provide enough audio output through suitable transformer to the station audio line.

One point to seriously consider in picking up a used set of unknown origin --- CHECK THE TUBE FILAMENT WIRING. I blew a complete set of tubes totally in their filaments by taking what looked like a pristine unmodified set and runing 24 volts on the filaments with the dynamotor. Alas, a previous owner had very precisely, and with perfect manufacturing and technical skill, rewired the 24 volt filament string for 12 volts. It looked perfectly original at first glance. Everything else was in place, untouched. That hurt.

Anyways..... ol' Dave Stinson is the resident ArcusFivus Guru, on the lists, and methinks we should have another ArcusFivus weekend on the BA/GB QRG? Any takers? How many folks can get one up for the watch? The arcusfivus rigs make great companions for the glowbugges about. How many can get an original rig up on dynamagicmotorpower? Them thar rotating machinery thingies has a fine and classic BA/GB smell to them as the bearings warm up and a tiny touch o' ozone emanates, wid dat fine whirr in the background qrm..... ahh, ain't if fun.....(:+{} }.....

73/ZUT DE NA4G/Bob UP

Date: Wed, 8 Jan 1997 09:55:27 -0700 (MST)
From: Art Winterbauer <art@comet.ucar.edu>
To: glowbugs <glowbugs@theporch.com>
Subject: Recalcitrant, reticent regen
Message-ID: <Pine.SUN.3.95.970108094450.17895D-100000@spike>

A few days ago I finished building a regen receiver that uses a #30 tube for the detector and another #30 for the audio amp. It's built on a wooden awards plaque, with masonite panels for holding up caps, knobs, jacks, etc.

The problem is, it refuses to cooperate in the regen sense. It detects the \$1 hamfest special noise generator in the specified frequency ranges. However, twiddling the capacitor across the tickler won't make it growl. Neither does reversing the tickler connections on the form. I've been playing with a couple of coil sets I've made,

and neither one does the trick.

The tickler coil is closely wound with about #22 enamel copper wire, and the grid coil is widely wound with the same. About 1/8" separates the two coils. The coils are connected to the pins of the form on the outside of the coil (rather than down the inside of the form). I've played with the separation between the coils. Next I'll splice on a bit of wire and add turns to the tickler to see if that helps. If not, I'll take 'em off.

I did check out the variable cap for the tickler, and it's ok.

This has sure increased my appreciation for the OTs who worked regularly with these homemade setups!

73 de Art, WA50ES

"Mankind stands at a crossroads. One path leads to despair and hopelessness. The other, to total destruction. Let us pray we have the wisdom to choose correctly." --Woody Allen

Date: Wed, 8 Jan 1997 13:58:00 -0500 (EST)
From: rdkeys@csemail.cropsci.ncsu.edu
To: GBB1@maristb.marist.edu
Cc: rdkeys@csemail.cropsci.ncsu.edu (), glowbugs@theporch.com
Subject: Re: ARC-5 Pwr supply?
Message-ID: <9701081858.AA118248@csemail.cropsci.ncsu.edu>

>
> Hi,
> Well my parts are coming together for the 6L6 tx. In the meanwhile I ha
> ve given a ARC-5 80m tx. to get started. Now I need something to give
> 'fire' and create life. I want to get it on the air and need a pwr
> supply. Does anyone have something that I could use, buy, assemble, fix
> or ????
> The Newbie who is becoming obsessed,
> Fr Bowes KB2TRF

Great on the 6L6 rig.

The arcusfivus needs a filament voltage (stock 26 vdc, if rewired, 12vdc), a low B+ voltage of 225 volts for the oscillator (taken from a 20K resistor off the B+ line), and a high B+ of 400-500vdc at 100ma.

If the rig is stock, only 1 small modification needs to be done to make it work. If it has been modified previously, then you need to consider what mods have been done, and how to correct them or work with/around them.

A 250vdc power supply will make it a 5 watt QRP rig.

A 500vdc power supply will make it a normal 20 watt rig.

Beyond 500vdc, can be risky although some have run 750 volts on the finals. If you choose to do that, use extreme care. They really work best at about 400-500vdc on the final tubes.

A good compromise power supply is a tv transformer for about 400 vdc output or a 440/220/110 line transformer, both of which will allow around 400-500vdc to be made at the 100-150ma level, in intermittent service.

The filament can often be powered by a 24vdc 3amp computer power supply from old computer floppy drives (old 8 inchers). If rewired for 12vdc, they can be powered from any 12vdc supply at about 3-5 amps or so. If AC is used, then a 4 amp filament transformer will probably work fine.

For those with arcusfivus rigs who want to use them with glowbugs as a vfo, you can take and run it at 48-90vdc and get sufficient output to replace the usual xtals. That is a good way to use highly previously modified rigs.

73/ZUT DE NA4G/Bob UP

Date: Wed, 8 Jan 1997 14:25:49 -0500 (EST)
From: rdkeys@csemail.cropsci.ncsu.edu
To: art@comet.ucar.edu
Cc: rdkeys@csemail.cropsci.ncsu.edu (), glowbugs@theporch.com
Subject: Re: Recalcitrant, reticent regen
Message-ID: <9701081925.AA118277@csemail.cropsci.ncsu.edu>

> A few days ago I finished building a regen receiver that uses a #30
> tube for the detector and another #30 for the audio amp. It's built
> on a wooden awards plaque, with masonite panels for holding up caps,
> knobs, jacks, etc.

Sounds like a wonderful regenerator, in waiting.....

> The problem is, it refuses to cooperate in the regen sense. It
> detects the \$1 hamfest special noise generator in the specified
> frequency ranges. However, twiddling the capacitor across the tickler
> won't make it growl. Neither does reversing the tickler connections

> on the form. I've been playing with a couple of coil sets I've made,
> and neither one does the trick.

Well, several kinds of things come to mind.

First.... regenerators don't usually growl. They should hiss. IF they growl, they may be motorboating or oscillating at a low audio frequency rather than at RF. That usually is an indication of too much feedback. Reducing tickler turns is probably the way to go in that case. Sometimes changing the grid leak to a lower value will help, but I don't like that method.

Second.... I would not use a capacitor across the tickler coil. That will work, as a regeneration control method, but a better method is the high side of the tickler to ground with the ``throttle condenser''. The usual value of condenser is 100pf to 500pf. I prefer something in the neighborhood of 250 pf minimally as a good throttle condenser value. Adjust the number of turns on the tickler coil to give just sufficient feedback to cause oscillation at about the half setting of the throttle condenser.

Third.... the condenser needs a choke, often, to force rf bypassing across the condenser. In the olden days, the impedance of the tin cans (headfones) was often sufficient to do this, but often not. A 2.5 mh rf choke between the capacitor tickler high side junction and the headfone or audio coupling device (cap, impedance, transformer or whatever), will often help. In the olden days, it was a choke of 300 turns of fine wire wound on one of mom's wooden thread spools. Its value is uncritical, but around 1-5mh is fine.

Fourth.... the biasing of the detector is often important. In the olden days, usual values of triode grid leak were 1-3 megohms with a grid coupling condenser of 100-250pf. In my hands a 10 meg ohm or higher leak and a 10pf-25pf coupling cap works better and increases the effective Q of the tank circuit for much sharper tuning and better regeneration. Grid leaks vary considerably in their rf quality, as to grid coupling condensers. What looks good on an ohmmeter may not be as good as you though, in situ in the circuit. Usually the condenser is a worse culprit than the leak, but check both.

> The tickler coil is closely wound with about #22 enamel copper wire,
> and the grid coil is widely wound with the same. About 1/8" separates
> the two coils. The coils are connected to the pins of the form on the
> outside of the coil (rather than down the inside of the form). I've
> played with the separation between the coils. Next I'll splice on a
> bit of wire and add turns to the tickler to see if that helps. If
> not, I'll take 'em off.

Usual practice is to make a test coil for 80M and then wind on about the required number of tank turns to be used and for the tickler coil on a

triode, about 20-25% of that number of turns is usually satisfactory. On pentodes, tha will drop to maybe 5% or even less. That relative ration of turns will usually hold for coils for 160 up through 20 meters. Thus if an 80 meter coil is 30 turns and its tickler is ultimately worked out to be 5 turns, the turns ratio is 6:1. For a 160 meter coil of say 60 turns, it should have a tickler of thusly about 10 turns...., etc. That works for me.

> I did check out the variable cap for the tickler, and it's ok.

Variable caps are like underwear, very individualized. You might find it advantageous to try another if all else fails. It can look good and even test out good on a sillymeter, but NOT function very well at rf. That has happened to several of the folks around here, including me.

> This has sure increased my appreciation for the OTs who worked
> regularly with these homemade setups!

Yeah, it is three parts black magic, two parts hot pepper sauce, a dozen cold 807's, and a dern lot o' cussedness. But, when they purr, they purr like a kitten..... Even now, a GOOD regenerator is a fine receiver, second to few others. A less than optimal one, is....well, ye knows whats me means!

A '30 is a fine detector and one step audio system. Mine regenerate smoothly on 12 vdc up through 48vdc. Beyond 72vdc, they can get a little squirrelley.

> 73 de Art, WA50ES

73/ZUT DE NA4G/Bob UP

Date: Wed, 8 Jan 1997 11:18:30 -0700
From: jeffd@coriolis.com (Jeff Duntemann)
To: GBB1@MARISTB.MARIST.EDU
Cc: glowbugs@theporch.com
Subject: Re: ARC-5 Pwr supply?
Message-ID: <1.5.4.32.19970108111202.00f8be1c@ntserver.coriolis.com>

At 10:58 AM 1/8/97 -0600, Fr. Bowes wrote:

>Well my parts are coming together for the 6L6 tx. In the meanwhile I ha
>ve given a ARC-5 80m tx. to get started. Now I need something to give
>'fire' and create life. I want to get it on the air and need a pwr
>supply. Does anyone have something that I could use, buy, assemble, fix

>or ????

When my family took a cross-country train trip on the Union Pacific in the summer of 1964, I recall reading in one of the *Popular Electronics* mags I took with for the trip an article called "Command Control Center," which was a box that combined station control, power supply, and a speaker into one unit, for integrating Command boxes into a coherent station. (Yes, I have *that* kind of memory. My sister calls it "brain sludge," that is, things you remember forever without any cause to remember--though as in this case they sometimes come in handy.)

I may or may not have that magazine; I'll certainly look. If anyone else has the 1964 issues of PE, please take a look and see if you can spot such an article. Check the summer issues first. The title was "Command Control Center" fersure.

Note that this was NOT a "butcher the box" article, as so many Command set articles were back then. This was the building of an all-new unit to pull together the "glue" it takes to turn a couple of Command sets into a station. It is thus worth recalling, especially as it had a very nice Command-specific power supply that did not depend on a dynamotor or anything exotic like that.

--73--

--Jeff Duntemann KG7JF
Scottsdale, Arizona

Date: Wed, 8 Jan 97 13:04:13 EST
From: jkh@lexis-nexis.com (John Heck)
To: glowbugs@theporch.com
Subject: Bliley Crystals
Message-ID: <9701081804.AA13328@beans.lexis-nexis.com>

Folks,
I have a couple of old 80m Bliley crystals. They are the type that look like a little hockey puck with a couple of big pins coming out of the bottom. I see them in pictures of '20s rigs. Can someone tell me what is the model designation for this type of package, as in "FT-243 type crystal", or etc? Thanks.
Regards,
John Heck, KC8ETS

1009 Donson Drive
Dayton, Ohio 45429
(513)865-7036(work)
jkh@lexis-nexis.com

Date: Wed, 8 Jan 1997 15:39:06 -0500 (EST)
From: rdkeys@csemail.cropsci.ncsu.edu
To: glowbugs@theporch.com
Cc: rdkeys@csemail.cropsci.ncsu.edu ()
Subject: Re: Recalcitrant, reticent regen (fwd)
Message-ID: <9701082039.AA118411@csemail.cropsci.ncsu.edu>

More thoughts on initially setting the regenerator coils.....

When you wind the first coil, for testing, make the tickler closewound and with the 20% number of turns. Then, take the plate supply and slowly work it up from zero until it regenerates with the condenser regeneration control set at half value. Note the voltage at which it breaks into oscillation. You want to target that voltage to be the value of your proposed plate supply....24/48/96 volts or whatever. On a type 30 tube, that should be around 36-48 volts for best operation. Test for oscillation by putting the headphones on, and listening for a rush, or if you touch the grid at the leak/condenser junction, you will get a click if oscillating and a mushy hash if it is not oscillating. If it oscillates at 24 volts or less, you have too many turns in the tickler, hence reduce accordingly, about 2 turns maximally, at a try. If it fails to oscillate and the tickler is 20-25% of the tank winding, then the connections are reversed on the tickler or something else is seriously wrong. After a couple of tries you should get the correct number of turns for the proper feedback at the plate voltage for which you are designing the set. That ratio of tank turns to tickler turns will remain fairly constant on 160-20 meters, but will need to be decreased (an extra turn or two of tickler) as the frequency goes up above 20 meters, to overcome losses. Once you find the 80M coil value, all else should fall into line, easily.

73/ZUT DE NA4G/Bob UP

Date: Wed, 8 Jan 1997 14:21:17 -0600
From: "Paul Bocci-CPB007" <Paul_Bocci-CPB007@email.mot.com>
To: glowbugs@theporch.com
Subject: RE: Command Set Corpses

Message-ID: <Macintosh */PRMD=MOT/ADMD=MOT/C=US/@MHS>

Howdy folks,

This thread provides me with an excellent opportunity to chime in and ask for some help!

Several hamfests ago I came home with a nice looking BC459, only one extra hole drilled in the chassis (in the back where it is hard to find) but missing a few parts to get it back to original. In the spirit expressed throughout this thread, I'd like to get it on the air in something resembling it's original state.

So, anybody out there have a spare selector relay , spare antenna coil contact hardware (I have the coil itself) and maybe a half dozen of those little screws? It is also missing the antenna relay but it sounds like the recommended configuration doesn't use it anyway.

Like so many of us, I once totally destroyed one of these treasures back in my misspent (or was it?) youth and would like to atone as well as have some fun.

73,

Paul, K9NO

cpb007@email.mot.com

Date: Wed, 8 Jan 1997 17:25:32 -0800

From: mjsilva@ix.netcom.com (michael silva)

To: glowbugs@theporch.com

Subject: Voltage needed to drive Xtal Osc?

Message-ID: <199701090125.RAA00782@dfw-ix3.ix.netcom.com>

The discussion regarding boosting a BC-221's output to act as a VFO got me to wondering: what voltage level is needed to drive a crystal oscillator to it's nominal output? Is there a lot of variation depending on circuit and/or tube?

BTW, to those who were concerned I'd be hacking up my new find, not to worry. It's in safe hands, and will be put to appropriate uses only.

73,

Mike, KK6GM

Date: Wed, 8 Jan 1997 22:47:55 -0500 (EST)

From: leeboo@ct.net (Leon Wiltsey)

To: GLOWBUGS@theporch.com

Subject: WTB SCOPE
Message-ID: <199701090347.WAA04541@blue.ct.net>

LOOKING FOR ANY OLD OSCILLOSCOPE.
NOTHING FANCY JUST CHEAP.
AM RETIRED SEMIDISABLED SENIOR.
Thank the good LORD for all that you have!!!

Leon B Wiltsey jr. (Lee)

67yr old semi disabled senior
play keyboard and sing
music 1920's to 60'
none of the 90's noise

Date: Wed, 8 Jan 1997 23:12:14 -0500 (EST)
From: WD6BOR@aol.com
To: glowbugs@theporch.com
Subject: Zenith Trans-Oceanic/ARC5
Message-ID: <970108224246_373282661@emout05.mail.aol.com>

This is a request for information to the Glowbugs group. The recent thread concerning the ARC5 got me to digging into my garage. I found a BC-453 and BC-457-A as well as my parent's old Zenith Trans-Oceanic SW receiver. I would like to restore the Zenith and am interested in getting the BC's working since they look unmodified and reasonably complete. If anyone has any information in the way of schematics and voltages for any of these rigs I would be happy to pay copying and postage costs if you could send them my way.

Thanks,
Darrel Jones, WD6BOR
358 Patten Street
Sonoma, CA 95476

Date: Wed, 08 Jan 1997 22:13:38 -0700
From: David Medley <davemed@worldnet.att.net>
To: glowbugs@theporch.com
Subject: Tubes 5763 and 8532
Message-ID: <3.0.32.19970108221336.006be9bc@postoffice.worldnet.att.net>

Would appreciate some info on the subject tubes. What are they and are they useful for anything? I have probably a dozen of each NIB JAN

David Medley KI6QE/7 VK2IMJ
davemed@worldnet.att.net
Tucson Arizona

Date: Wed, 8 Jan 1997 22:24:57 -0800
From: Dave <gekko95@ix.netcom.com>
To: glowbugs@theporch.com
Subject: Help with coil frequency
Message-ID: <199701090624.WAA14113@dfw-ix9.ix.netcom.com>

Hi gang,

I have a coil with the following spec's and wonder if it will be a good candidate for my 5 band (160 - 15) 50 watter:

Diameter	2.5"
Spacing	11 TPI
Total turns	38
Coil Length	3.5"
Wire size	18 most likely
Form	Ceramic

Can someone with a Lightning Calculator tell me if this will hit 1.8 mc? I haven't dipped it yet. I'm sure with enough padding I can make it hit 1.8 mc, but how much is too much? I know there is a 'magic' ratio of L and C in a PI tank, but I don't know how to determine it.

It's a beautiful old coil made by Wilcox, and is apparently new as far as I can tell.

Any help would be appreciated.
"Give me ambiquity or give me something else"

Date: Wed, 8 Jan 1997 23:10:56 -0800
From: Dave <gekko95@ix.netcom.com>
To: glowbugs@theporch.com

Subject: VFO question

Message-ID: <199701090710.XAA28738@dfw-ix7.ix.netcom.com>

Hi again,

I have settled on the VFO for my 5 band (160 - 15) 50 watter. I'm going to use the series-tuned Colpitts from the '54 handbook, built for 1.7 mc. It uses a 5763 in the oscillator and doubler, and according to the plans produces around 2 watts of output.

Question: do you think this will have sufficient harmonic level to still work at 21 mhz? My transmitter uses a 12BY7 oscillator with a tuned output to the final. I am trying to stay away from a bandswitching VFO for stability reasons.

Any comments would be appreciated.

73's

Dave WB7AWK

"Give me ambiquity or give me something else"

Date: Thu, 9 Jan 1997 12:23:45 -0500 (EST)

From: rdkeys@csemail.cropsci.ncsu.edu

To: mjsilva@ix.netcom.com

Cc: rdkeys@csemail.cropsci.ncsu.edu (), glowbugs@theporch.com

Subject: Re: Voltage needed to drive Xtal Osc?

Message-ID: <9701091723.AA118686@csemail.cropsci.ncsu.edu>

>

> The discussion regarding boosting a BC-221's output to act as a VFO got

> me to wondering: what voltage level is needed to drive a crystal

> oscillator to it's nominal output? Is there a lot of variation

> depending on circuit and/or tube?

>

It can vary considerably.

Typically small xtal oscillators like 6CL6's in Heathkit stuff will require 1 or 2 volts of drive across a 50 ohm load. That is about 1/20th of a watt or so.

Larger xtal oscillators like an 807 or 837 will require 2 to 5 volts of drive across a 50 ohm load. That is about 1/10th of a watt or so.

Things can be deceptive, tho, in that with proper coupling and tuning so losses are minimal, it can drop down to 1/100th watt or maybe 1/10th volt across a 50 ohm load.

For general use, plan on at least 2 volts and you will probably be fairly happy. It can always be reduced in the coupling, if desired.

The HG-10 Heathkit vfo seems to give me about 1 volt across a 50 ohm load, for reference.

73/ZUT DE NA4G/Bob UP

End of GLOWBUGS Digest 409
